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PROCEEDINGS
OF
THE ROYAL SOCIETY.

1836.

No. 25.

April 21, 1836.

RODERICK IMPEY MURCHISON, Esq., Vice-President, in the
Chair.

A paper was read, entitled "Additional Observations on Voltaic Combinations." In a letter addressed to Michael Faraday, Esq., D.C.L., F.R.S. Fullerian Professor of Chemistry in the Royal Institution, &c. By J. Frederick Daniell, Esq., F.R.S., Professor of Chemistry in King's College, London.

The author has found that the constant battery, of which he described the construction in a former communication to the Royal Society, might be rendered not only perfectly steady in its action, but also very powerful; as well as extremely efficacious and convenient for all the purposes to which the common voltaic battery is usually applied. With this view he places the cells which form the battery in two parallel rows, consisting of ten cells in each row, on a long table, with their siphon-tubes arranged opposite to each other, and hanging over a small gutter, placed between the rows, in order to carry off the refuse solution when it is necessary to change the acid. Having observed that the uniformity of action may be completely maintained by the occasional addition of a small quantity of acid, he is able to dispense with the cumbrous addition of the dripping funnel; an arrangement which admits with facility of any combination of the plates which may be desired.

April 28, 1836.

DAVIES GILBERT, Esq., Vice-President, in the Chair.

Captain John James Chapman, R.A., was elected a Fellow of the Society.

On certain parts of the Theory of Railways; with an investigation of the formulæ necessary for the determination of the resistances to the motion of carriages upon them, and of the power necessary to work them. By the Rev. Dionysius Lardner, LL.D., F.R.S.

The author observes, in his prefatory remarks, that an extensive and interesting field of mathematical investigation has been recently opened in the mechanical circumstances relative to the motion of heavy bodies on railways; and having collected a body of experiments and observations sufficient to form the basis of a theory, he purposes,